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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,753	07/08/2005	Katsuhiko Higashino	Q88807	3898
23373	7590	12/15/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			HU, HENRY S	
			ART UNIT	PAPER NUMBER
			1713	

DATE MAILED: 12/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/541,753	HIGASHINO ET AL.	
	Examiner	Art Unit	
	Henry S. Hu	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Pre-Amendment of July 8, 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7-8-2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. It is noted that USPTO has received **Pre-Amendment** and **IDS** (1 page) both filed on July 8, 2006. **Claims 6-9 were amended**, while no claim was cancelled or added. Such a claim pre-amendment is only to remove the improper multiple to multiple claim dependency. **Claims 1-9** with only one independent claim (Claims 1) are now pending. **No request on restriction is applied.** An action follows.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

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3. The limitation of parent **Claim 1** in present invention relates to **a crosslinkable elastomer composition for plasma process** comprising **two** components as: (A) **a crosslinkable elastomer**, and (B) **a carbon fluoride filler**.

See other limitations of dependent Claims 2-9.

4. Claims 1-2, 4 and 6-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Minamino et al. (US 6,974,845 B1).

Regarding the limitation of parent **Claim 1**, Minamino et al. have disclosed an UV-**crosslinkable** polymer composition to be useful in plasma irradiation process (column 6, line 39-40). The composition comprises **at least the claimed two components** as: (A) **polymer resin or elastomer** (see column 2, lines 11-12 and 54) **containing iodine and/or bromine in an amount of 0.001 to 10 weight%**, (B) photoinitiator, (C) crosslinking agent, (D) polyfunctional unsaturated compound, and (E) some filler(s) such as **carbon fluoride** (column 6, line 28-41; particularly see line 39-40) (abstract, line 1-6; column 2, line 11 – column 6, line 41). It is noted that open language “comprising” is applied in parent Claim 1. Therefore, Minamino fully anticipates the present limitation of parent Claim 1.

5. Regarding **Claims 2 and 4**, other filler(s) such as **sodium silicate and/or aluminum silicate** may be used in the composition (column 6, line 34-35).

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Regarding **Claim 6**, the process of heat treatment on filler in advance may be routine in the art so as to remove volatile impurities and the like.

Regarding **Claim 7**, various **perfluorinated elastomers** having iodine and/or bromine are indeed used as component (A) by Minamino (column 2, line 47-67).

Regarding **Claims 8 and 9**, please molding articles and seal articles made from such a UV-crosslinkable polymer composition at column 7, line 58 – column 9, line 57.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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7. Claims 1-2, 4 and 6-9 are rejected 35 U.S.C. 103(a) as being unpatentable over Ohata et al. (US 5,430,103), Amin et al. (US 5,444,116) or Amin et al. (US 5,461,107), each individually in view of Minamino et al. (US 6,974,845 B1).

Regarding parent **Claim 1**, each of references including Ohata, Amin “116” and Amin “107” has disclosed a curable composition comprises at least the claimed two components. For instance, see “103” at abstract, line 1-5; column 4, line 10-22; see “116” at abstract, line 1-4; see “107” at abstract, line 1-5. It is noted that fluorographie filler used by “116” and “107” is equivalent to carbon fluoride filler used by “103”.

In a very close examination, each reference is still silent of the application in plasma processing. Minamino has taught such an application as advantage of using the claimed composition. For instance, an UV-crosslinkable polymer composition comprising at least the claimed two components can be very useful in plasma irradiation process (column 6, line 39-40; column 6, line 28-41; particularly see line 39-40) (abstract, line 1-6; column 2, line 11 – column 6, line 41).

In light of the fact that all involving references are dealing with the same or similar crosslinkable polymer composition comprising at least the same claimed two components, one having ordinary skill in the art would therefore have found it obvious to apply the product made from Ohata, Amin “116” or Amin “107”’s crosslinkable composition to be used in

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plasma irradiation processing as taught by Minamino with an advantage as more diversified products can be thereby produced.

8. The discussion of the disclosures of the prior art of Minamino et al. for Claims 1-2, 4 and 6-9 of this office action is incorporated here by reference. With disclosures from references and the teaching from Minamino, dependent **Claims 2, 4 and 6-9** can be thereby rejected.

9. Claims 3 and 5 are rejected 35 U.S.C. 103(a) as being unpatentable over Ohata et al. (US 5,430,103), Amin et al. (US 5,444,116) or Amin et al. (US 5,461,107), each individually in view of Minamino et al. (US 6,974,845 B1), and further in view of Matsumoto et al. (US 6,610,761 B1).

The discussion of the disclosures of the prior art of **Minamino** et al. for 102 rejection of Claims 1-2, 4 and 6-9 of this office action is incorporated here by reference. The discussion of the disclosures of the prior art of **Ohata, Amin "116" and Amin "107" and Minamino** for 103 rejection of Claims 1-2, 4 and 6-9 of this office action is also incorporated here by reference. Regarding **Claims 3 and 5**, each of reference combination is **silent of further comprising a synthetic polymer having a main chain with a thermally and chemically stable aromatic ring, and an amide or an imide bond in the main chain.** **Matsumoto** teaches that an acrylic rubber with **amide bond and/or aromatic ring** can be added together with a crosslinkable fluororubber having iodine (column 2, line 41-42). By doing so, molded product made from

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such a crosslinkable composition is useful for ionizing radiation. Please see abstract, line 1-10; column 2, line 60 – column 3, line 56; particularly see column 3, line 47-50.

In light of the fact that all involving references are dealing with the same or similar crosslinkable polymer composition, one having ordinary skill in the art would therefore have found it obvious to **modify Ohata, Amin “116” or Amin “107”’s crosslinkable composition by further adding an acrylic rubber having amide bond and/or aromatic ring in the main chain** as taught by Matsumoto with an advantage as such molded product made from such a crosslinkable composition is useful for ionizing radiation. More diversified products can be thereby produced.

10. Claims 3 and 5 are rejected 35 U.S.C. 103(a) as being unpatentable over Minamino et al. (US 6,974,845 B1), and further in view of Matsumoto et al. (US 6,610,761 B1).

The discussion of the disclosures of the prior art of **Minamino** et al. for 102 rejection of Claims 1-2, 4 and 6-9 of this office action is incorporated here by reference. Regarding **Claims 3 and 5**, Minamino is silent of further comprising a synthetic polymer having a main chain with a thermally and chemically stable aromatic ring, and an amide or an imide bond in the main chain. Matsumoto teaches that an acrylic rubber with **amide bond and/or aromatic ring** can be added together with a crosslinkable fluororubber having iodine (column 2, line 41-42). By doing so, molded product made from such a crosslinkable composition is useful

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for ionizing radiation. Please see abstract, line 1-10; column 2, line 60 – column 3, line 56; particularly see column 3, line 47-50.

In light of the fact that both involving references are dealing with the same or similar crosslinkable polymer composition, one having ordinary skill in the art would therefore have found it obvious to **modify Minamino's crosslinkable composition by further adding an acrylic rubber having amide bond and/or aromatic ring in the main chain** as taught by Matsumoto with an advantage as such molded product made from such a crosslinkable composition is useful for ionizing radiation. More diversified products can be thereby produced.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The following references relate to a crosslinkable elastomer composition (to be useful for plasma process) comprising two components as: crosslinkable elastomer and carbon fluoride filler:

US Patent No. 6,191,233 B1 to Kishine et al. only discloses the preparation of a vulcanizable elastomer composition can be with a mixture of **carbon fluoride filler and a peroxide-curable elastomer** (column 2, line 34-37; column 6, line 31-43). However, application to be used in plasma irradiation processing is NOT disclosed or suggested.

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12. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Dr. Henry S. Hu** whose telephone number is **(571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The fax number for the organization where this application or proceeding is assigned is **(571) 273-8300** for all regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Henry S. Hu

Patent Examiner, Art Unit 1713, USPTO

December 11, 2006



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